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Frequency of breast lesions in Gadarif Advanced Medical Diagnostic Centre

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Abstract

Background and Objective: Breast cancer (BC) is a heterogeneous group of diseases characterized by different pathologies, biological characteristics and clinical behaviors. Breast cancer is the most prevalent cancer among females worldwide including Sudan. The aim of this study is to report the frequency of the lesion presented to Gadarif Advanced Medical Diagnostic (GAMD) center in period between 1thJanuary and 31th December 2018.

Materials and Methods: Prospective descriptive study, one hundred and eighty seven breast biopsies and mastectomies submitted to GAMD, they were processed and histopathologically examination were done and the results were recorded.

Results: A total of 187 samples from the patients with breast lesion were collected, the females represented 181 (96.8 %), and the males were 6 (3.2 %). Majority of patients 129 (69%) were belonged to the age group between 18 -40 years. 127 (68%) patients from urban area. 108 (58%) pure-African. The total number of benign conditions was 150 (80%) and malignant conditions were 37. Of the 37 malignant lesions, 20 (54.1%) were non-complicated and 17 (45.9%) patients were complicated, whoever all the cases are infiltrating ductal carcinoma. Fibro-adenoma was commonest benign represented 125 (67%) patients, followed by fibrocystic disease 17 (8%). 163 (87%) cases were Single and 24 (13%) were compound. 96 (51%) of lesions noted in the right breast.

Conclusion & Recommendation: From the present study concluded that fibro-adenoma the most common lesions followed by fibrocystic disease and then malignancy, sizable number of malignant cases presented with advanced stage indicated late presentation. The recommendation of this study to the raise the community awareness by health education to perform self-breast examination, to initiate the breast clinic and screening in regional Hospital.

Keywords: Breast Lesions, Frequency, Gadarif, Sudanese

1. Introduction

Breast diseases are very common in female; however they are less common in male. They range from inflammatory, benign lesions and invasive carcinomas. In Pakistan about 40,000 patients die every year due to breast cancer alone, 90% of them can be cured if detected at an optimum time. Early diagnosis of any lesion can help in decreasing the incidence of invasive carcinomas. Numerous studies were done on breast carcinoma and other malignant lesions, however studies conducted on the incidence of other benign lesions are not common (Seema, 2014, Malik; 2010). Study conducted in Lahore medical and dental collage revealed that from a total number of 117, 44 patients were diagnosed as fibroadenomas, 23 patients were carcinomas, 14 patients were mastitis, 5 patients were ductectasia, 2 were fibrocystic disease and 2 patients were lactating adenomas (Seema Butt, 2014). In the Arabic world, most of the studies on pathological conditions related to its malignancies (Samir and Amir, 1995, Danjani and Jitawi 1987). Carcinoma of the breast rank first among malignant tumours affecting females the world including Saudi Arabia (Samir Amir, 1995). In study conducted in Saudi Arabia attempt to declare the spectrum of breast diseases. A retrospective study conducted in all breast biopsies and mastectomies in the period between 1967 and 1992. A total of 187 cases were collected. Fibroadenoma was the most common lesions (30.7%), followed by fibrocystic disease (21.1%), carcinoma (14.9%), with 61.7% of them presented with auxiliary nodal involvement, acute mastitis (7.2%), duct ectasia (4.9%), lactational adenoma (4.8%), intraductal papiloma (2.6%) galactocele and several less frequent lesions (Samir, Amir, 1995). A retrospective study done in Yemen Ladies in the period between January 1997 and December 2001 recruiting 773 patients. It was found that the

benign lesion represented 79.9%. Fibroadenoma was the most common lesion (30.0%) with mean age 22.2 years, fibrocystic disease came after with prevalence of (27.4%), then inflammatory lesions (13.1%). Invasive carcinomas found in 155 patients (20.1%) at mean age of 44.7 years. When comparing the presence of lesion in the left and right breast, it was found that invasive carcinoma and tubular adenoma were seen in the left breast. Fibroadenoma, fibrocystic disease, inflammatory and lactating adenoma were seen in the right breast. Few cases of fibrocystic disease 10 (4.7%), fibroadenoma 6 (2.6%) and single case of lactating adenoma 1 (3.3%) were seen in both breast. There was no single case reported as carcinoma (Thobhani, 2006). Breast cancer is a leading cause of cancer death in Ghanaian ladies. In Ghana data on breast cancer is scant, however the disease is a common cause of hospitalization and mortality among Ghanaian women. The same result was seen in other sub-Saharan region, where the disease is indigenous in black African and often severe (Ohene, Yaboah, 2012, Wiredu 2006). Study conducted at Komfo Anokye Teaching Hospital, Ghana in the period between 01.7.2004 and 30.6.2009, nineteen thousand, four hundred and twenty three (19,423) patient were recruited in the study. Triple assessment had been done for them, clinical mammography and histopathological biopsy. There were 330 (1.7%) proven to be breast cancer patients. In Kumasi as in other parts of Ghana breast cancer affected mostly the young pre-menopausal patients who presented with advanced disease. The 330 with established diagnosis, represented 22.3% of the 1481 malignancies diagnosed during the study period. Male breast cancer represented 5 (1.3%) patients of the total 330 breast cancer patients (Ohene, Yaboah, 2012). Vast majority of breast lesions are benign, however big concerns is given

to the malignant ones because breast cancer is the most common malignancy in women worldwide. It is important to know the different pathological patterns of benign lesions. This will help in the proper diagnosis of lesions and buildup of potent programs against cancer (Ageep 2011). Study conducted in Red sea state, Sudan six hundred and eighty nine breast specimen examined in the period between (2005-2010) in pathological laboratory center, red sea medical center, Portsudan; the study revealed 567 out of the 689 specimen were proved to be benign in nature. The commonest type were fibrocystic disease (39.3%), followed by fibroadenoma (30.2%), acute mastitis and the fourth type was the benign phyllodes tumor (5.7%). The commonest age of presentation for benign lesion was 20 to 29 years, while the commonest age for the malignant lesion was 40-49 years. It is difficult to know whether a breast lump is cancerous without performing imaging examination, biopsy, and/or FNAC which is part of triple assessment that include beside FNAC, clinical assessment and radiological examination. FNAC is highly accurate method for diagnosing breast cancer and has given rise to a reduction in the number of excisional biopsies for benign breast disease. FNAC before surgery should be done to any person complaining of palpable breast mass (Ageep, 2011, Mothahedeh, et al 2003).

This study is extension of previous studies with the aim to see any difference exist between the incidence of different breast lesion in our set up and the rest of the world. This type of studies can throw the light and give information in the developing preventions program on different breast lesion. Also can give clue to the predisposing factors such as age, gender and environmental efforts Department of histopathology, Gadarif Advanced medical diagnostic center, East Sudan, started doing histopathology reporting in 2007 and since that time no research in breast pathology has been done.

The objective of this study is to know the frequency of the different histopathological lesions in department of histopathology, Gedarif advanced medical diagnostic center and compare it with national and international ones.

2. Materials and Methods

Prospective cross sectional descriptive Laboratory based study. Conducted in Department of histopathology and cytopathology, advanced medical diagnostics center (AMDC), Gadarif State, Eastern Sudan. The center is only one in the state. The majority of the specimens coming from the Gedarif teaching hospital and maternity hospital. The department reproduce about 1.400 histopathology report a year. 187 histopathological specimens were processed and reported in the period between January.1.2018 and December 31.2018. Variables such as age, gender, residency, ethnicity, site of the lesion, type of the lesion were retrieved from the histopathology report, data processed, frequency, percentage has been calculated as well as tables and figure has been done and all results were recorded. Data were analyzed by using excel program, version 21.

3. Results

A total of 187 samples from the patients with breast lesion were collected, out of which 181 (96.8%) were females, 6 (3.2%) were males (figure 1). The age of patients less than 18 and more than 40 years, majority 129 (69%) of patients were belonged to the age group between 18-40 years (figure 2). 127 (68%) patients were from urban areas (figure 3). The ethnicity of cases 79 (42%) mix Arab, 108 (58%) pure-African (figure 4). Diagnosis was found that 150 (80%) cases were benign lesions and 37 (20%) were malignant lesions (figure 6). Whoever all the cases are infiltrating ductal carcinoma with some of them accompanied with intraepithelial carcinoma. 20 (54%) cases of malignant lesions were presented as non-complicated, 17 (46%) with complications such as regional lymph nodes involvement, skin changes, Paget's disease of the breast and distant metastasis (figure 8). The most common benign was fibroadenomas 125 (66.8%) followed by fibrocystic disease 17 (9.1%), inflammatory lesions 16 (8.6%), phylloides 11 (5.9%), 3 (1.6) gynecomastia (table 1). 163 (87%) cases were Single and 24 (13%) were compound (figure 7). The lesions sides were found as follows: 96 (51%) noted in the right breast, 78 (42%) in the left breast and 13 (7%) bilateral (figure 5).

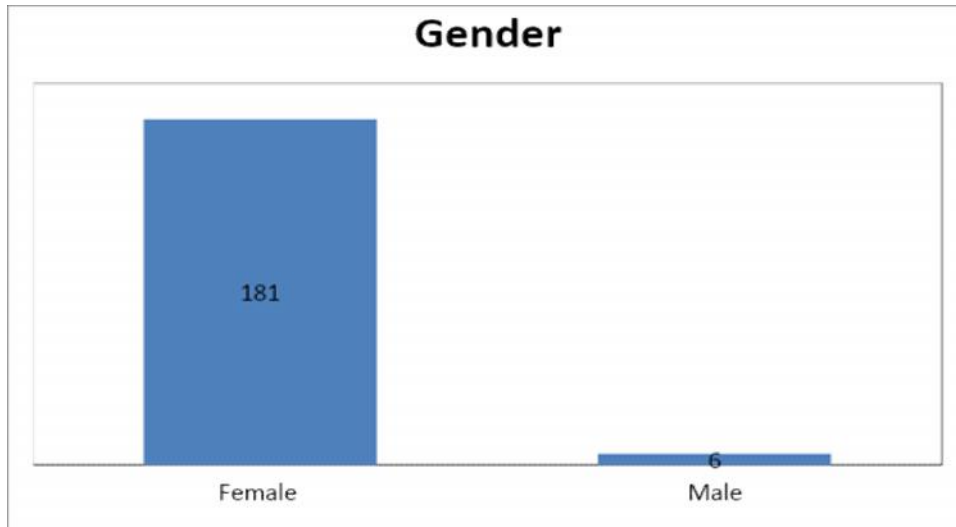


Figure (1): Show the gender of patients.

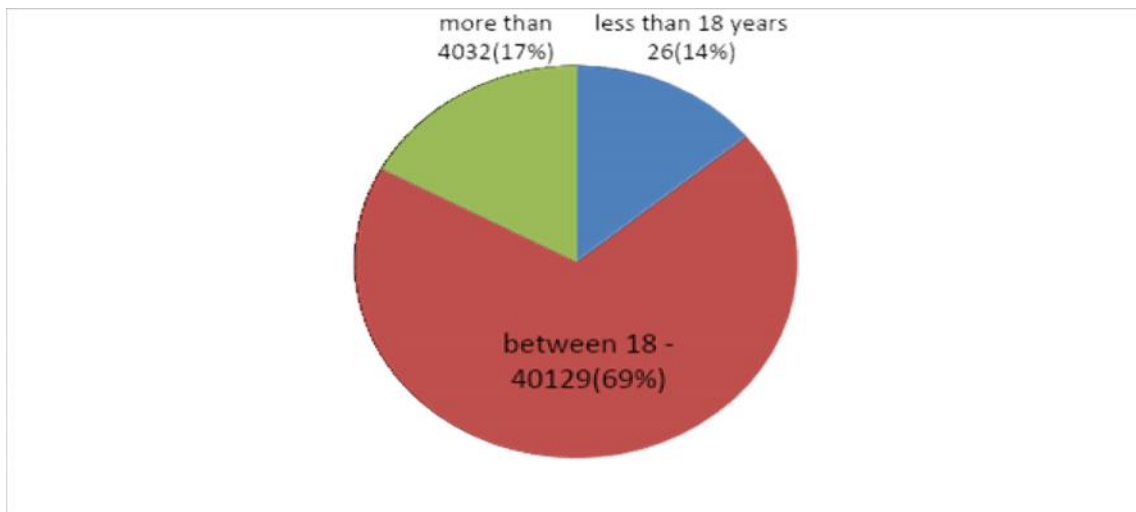


Figure (2): Show age groups of patients.

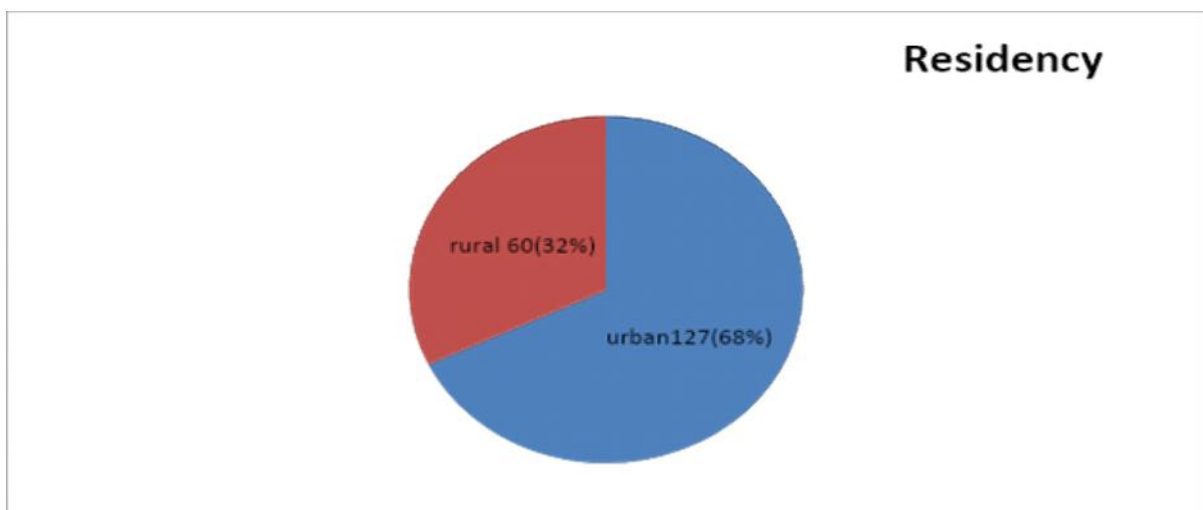


Figure (3): Show the residence of patients.

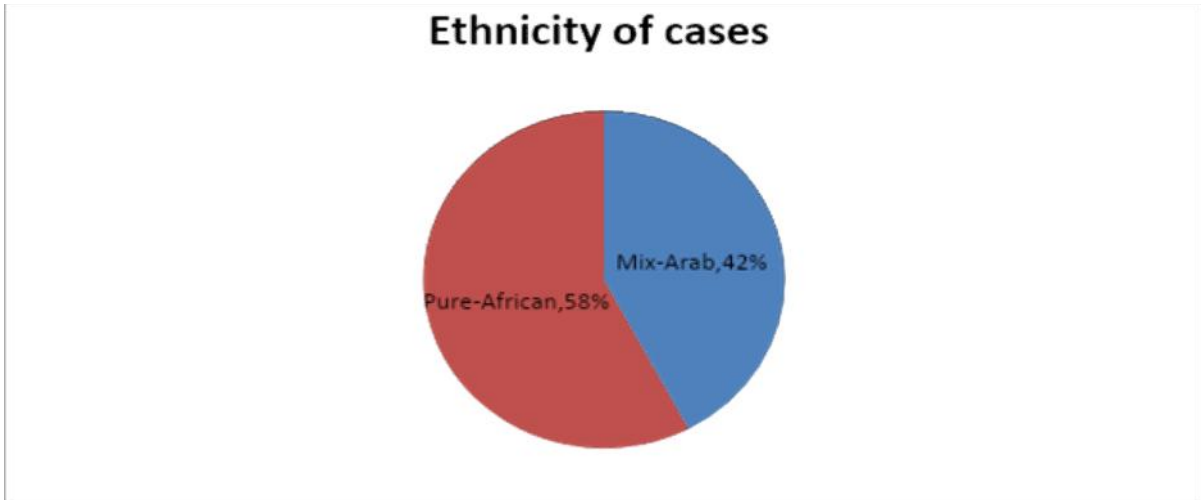


Figure (4): Show the ethnicity of patients.

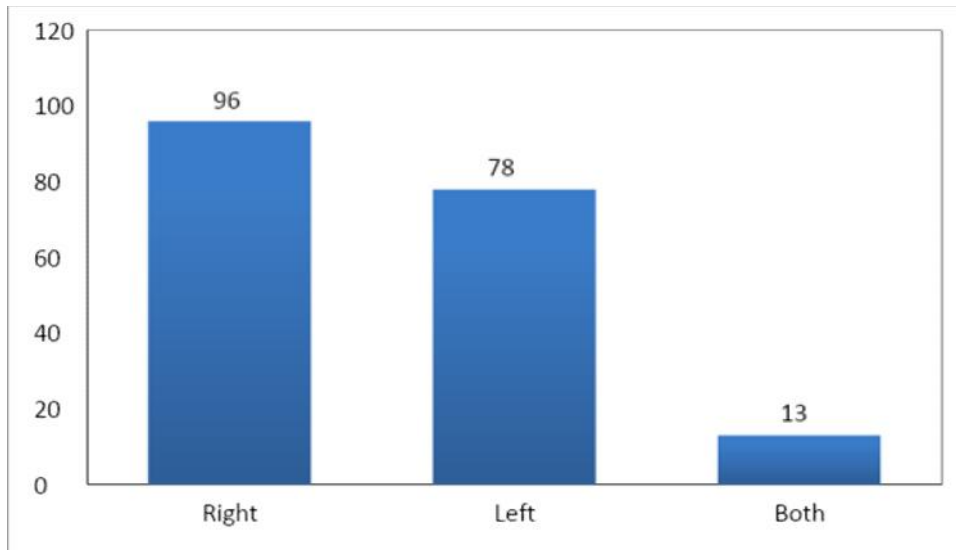


Figure (5): Show the distribution of affected side of the breast.

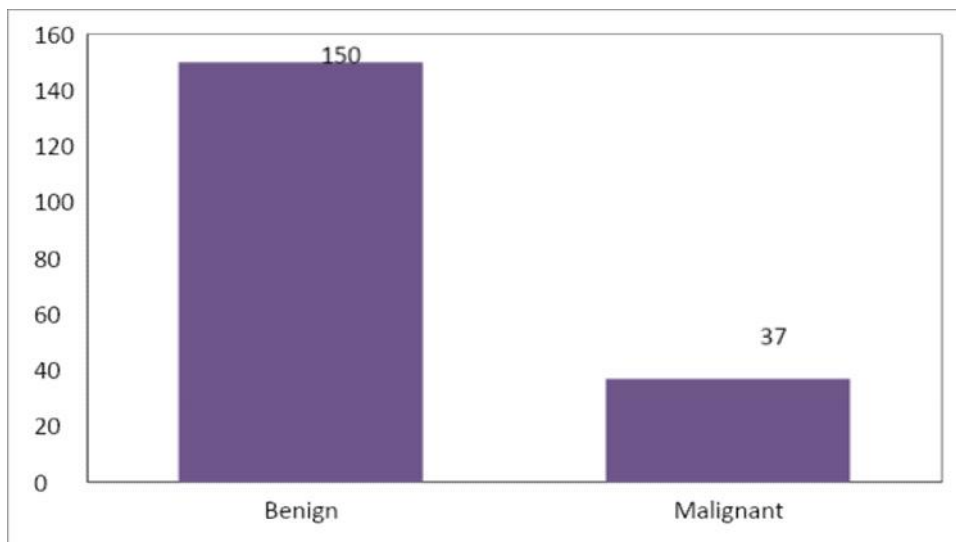


Figure (6): Show types of lesions.

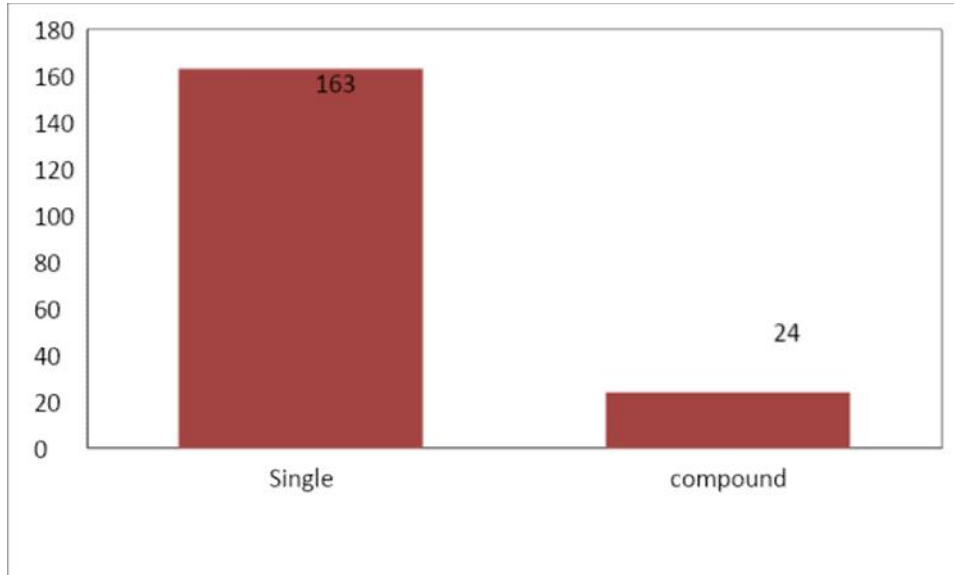


Figure (7): Show single and compound diagnosis.

Table (1): show types of benign lesion

| Items | FA | FCD | Inf | Phy | GY |
|-------|-----|-----|-----|-----|----|
| Cases | 125 | 17 | 16 | 11 | 3 |

| Lesions | Frequency | Percent |
|--------------|-----------|---------|
| fibradenomas | 125 | 66.8 |
| Fibrocystic | 17 | 9.1 |
| Inflammatory | 16 | 8.6 |
| Phylloides | 11 | 5.9 |
| Gynecomastia | 3 | 1.6 |

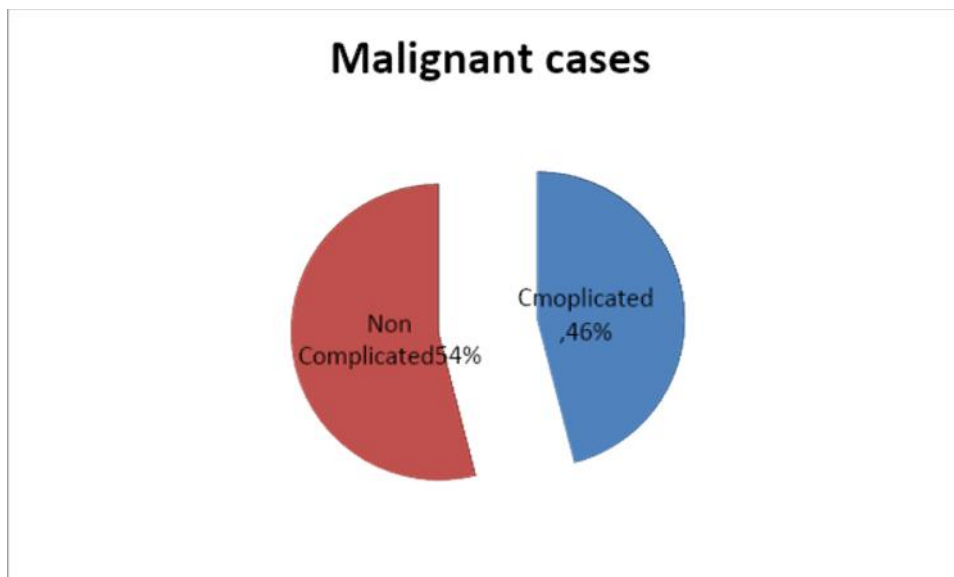


Figure (8): Show stage lesions.

4. Discussion

In current study the breast pathology was common in Gadarif state, with more prevalent in urban population, than the rural areas, this find might not be true because the rural people are not aware about their health and not find easy access to the health facilities. This agrees with study conducted by Amany et al, 2015 in Radiation & Isotopes center Khartoum (RICK) It is expected that the disease is increase in urban as a result of migration of people from rural areas to urban cities in pursuit of better standards of living which result lifestyle and behavior changes including smoking and unhealthy diet. In the present study only 13% of patients with the age less than 18 years old, this results indicate that the risk for breast cancer increases older in age. This finding was supported in the literature by numerous studies (Alsanabani et al, 2015). In this study the majority of cases, 96.8% were females this is consistent with the rarity of male breast disease (Chiedozi et al, 2013).

Our study revealed that the commonest lesion was fibroadenoma followed by malignancy then fibrocystic disease this was consistent with study done in Lahore medical and dental center as well as the case with the international studies (Seema Butt,2014) However, this is contrast with studies conducted in Saudi Arabia and Yamen ((Samir and Amir, 1995, Thobhani, 2006).

Otieno et al, 2008t reported that the most common malignancy was ductal carcinoma constituting 91.7% of all cancerous breast diseases followed by lobular carcinoma at 2.8. In the present study all the cases are ductal carcinoma with some of them accompanied with intraepithelial carcinoma. Our study found that the commonest benign lesion was fibro adenoma followed by fibrocystic disease, this is inconsistent with study done in red sea state by Ageep, et al who found that the commonest benign lesion was fibrocystic disease and followed by fibroadenoma (Ageep, 2011). However, Fibroadenoma, ductal carcinoma, breast abscesses, fibrocystic disease and breast pain share similar prominence in other studies, only differing in their order of ranking (Otieno et al, 2008).

The current study showed that sizable number of breast malignancy presented with complications such as regional lymph nodes involvement and distant metastasis, which is in line with study done in Ghanaian ladies where breast cancer is a leading cause of cancer death and common cause of hospitalization and mortality.

In this study the disease is more prevalent in pure-African 108 (58%). This is consistent with the result in other sub-Saharan region, where the disease is indigenous in black African and often severe (Ohene and Yaboah, 2012) (Wiredue, 2006).

Male breast lesions as well as breast cancer was found to be rare, study done in Ghana revealed that male breast cancer represented 5 (1.3%) patients of the total 330 breast cancer patients (Ohene and Yaboah,2012). The similar result was found in the current study 6 (3.2) patients.

5. Conclusion

From the present study concluded that fibroadenoma the most common lesions followed by malignancy and then fibrocystic disease, sizable number of malignant cases presented with advanced stage indicated late presentation. The breast lesions are more common in urban population than rural people and these reflects that the town people are more concern about their health and find easy access to the health services. Our breast cancer patient presented late when compare with the Americans.

6. Recommendations

Patient presented with late and advanced disease because of lack of awareness and knowledge, so Introducing and increasing the awareness of secondary schools and non-medical university colleges about the self-breast examination especially for females students to pick up any small lump for early and timely diagnosis. To become appoint start to increase the awareness of community of Gadarif state. Screening program by mammography and others efforts are needed to help the timely diagnosis and treatment of disease.

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